Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-80 (canceled)

Claim 81 (new): One or more computer readable media storing computer executable instructions to perform a method for vectorizing a set of document predicate structures, the method comprising:

identifying at least one predicate and argument in said set of document predicate structures by a predicate key that is an integer representation, and estimating conceptual nearness of two of said document predicate structures in said set of document predicate structures by subtracting corresponding ones of said predicate keys.

Claim 82 (new): The computer readable media of claim 81, the method further comprising constructing multi-dimensional vectors using said integer representation.

Claim 83 (new): The computer readable media of claim 82, the method further comprising normalizing said multi-dimensional vectors.

Claim 84 (new): The computer readable media of claim 83, the method further comprising identifying at least one query predicate structure by a second predicate key that is a second integer representation, and constructing second multi-dimensional vectors, for said at least one query predicate structure, using said second integer representation.

Claim 85 (new): The computer readable media of claim 81, the method further comprising identifying at least one query predicate structure by a second predicate key that is a second integer representation, and constructing second multi-dimensional vectors, for said at least one query predicate structure, using said second integer representation.

Claim 86 (new): The computer readable media of claim 81, wherein said set of document predicate structures are representations of logical relationships between words in a sentence.

Claim 87 (new): One or more computer readable media storing computer executable instructions to perform a method for vectorizing a set of document predicate structures, the method comprising:

identifying at least one predicate in said set of document predicate structures by a predicate key that is an integer representation, and estimating conceptual nearness of two of said document predicate structures in said set of document predicate structures by subtracting corresponding ones of said predicate keys.

Claim 88 (new): The computer readable media of claim 87, the method further comprising constructing multi-dimensional vectors using said integer representation.

Claim 89 (new): The computer readable media of claim 88, the method further comprising normalizing said multi-dimensional vectors.

Claim 90 (new): The computer readable media of claim 89, the method further comprising identifying at least one query predicate structure by a second predicate key that is a second integer representation, and constructing second multi-dimensional vectors, for said at least one query predicate structure, using said second integer representation.

Claim 91 (new): The computer readable media of claim 87, the method further comprising identifying at least one query predicate structure by a second predicate key that is a second integer representation, and constructing second multi-dimensional vectors, for said at least one query predicate structure, using said second integer representation.

Claim 92 (new): The computer readable media of claim 87, wherein said set of document predicate structures are representations of logical relationships between words in a sentence.

Claim 93 (new): One or more computer readable media storing computer executable instructions to perform a method for constructing multi-dimensional vector representations for each document of a set of documents, the method comprising:

determining each predicate structure of one or more predicate structures M in each document of the set of documents, said M predicate structures including a predicate and at least one argument;

identifying the predicate and the at least one argument in each of said M predicate structures by a predicate key that is an integer representation;

determining a fixed number of arguments q for vector construction;

constructing an N-dimensional vector representation of each document based upon the predicate and q arguments,

wherein any predicate structure of said M predicate structures that includes less than q arguments fills unfilled argument positions with a numerical zero.

Claim 94 (new): The computer readable media of claim 93, wherein any predicate structure of said M predicate structures that includes more than q arguments omits remaining arguments after q argument positions are filled.

Claim 95 (new): The computer readable media of claim 94, wherein conceptual nearness of two of said N-dimensional vector representations is estimated by subtracting corresponding ones of said predicate keys.

Claim 96 (new): The computer readable media of claim 94, the method further comprising normalizing said N-dimensional vector representations.

Claim 97 (new): The computer readable media of claim 93, wherein conceptual nearness of two of said N-dimensional vector representations is estimated by subtracting corresponding ones of said predicate keys.

Claim 98 (new): The computer readable media of claim 93, the method further comprising normalizing said N-dimensional vector representations.